

Patent claims

1. A telecommunications system for transmitting images, having
- (a) first means (10) for recording a transmission image motif in the form of an image message,
- 5 (b) second means (11) for processing the recorded image message,
- (c) third means (12) for transmitting the image message, which can be connected to a telecommunications channel (2),
- (d) fourth means (30) for receiving the transmitted image message,
- (e) fifth means (31) for processing the received image message and
- 10 (f) sixth means (32) for displaying the image message in the form of a reception image motif,
- characterized in that
- (g) the first, second and third means (10, 11, 12) are arranged in a mobile telecommunications-channel-independent transmission device (1).
- 15 2. The telecommunications system as claimed in claim 1, characterized in that the fourth, fifth and sixth means (30 ... 32) are arranged in a mobile telecommunications-channel-independent reception device (3).
- 20 3. The telecommunications system as claimed in claim 1 or 2, characterized in that the transmission device (1) and/or the reception device (3) are assigned directly to the telecommunications channel (2).

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4. The telecommunications system as claimed in claim 1 or 2, characterized in that the transmission device (1) and/or the reception device (3) are assigned to the telecommunications channel (2) via an acoustic coupling with a telecommunications device.

5 5. The telecommunications system as claimed in one of claims 1 to 4, characterized in that the transmission device (1) and/or the reception device (3) is assigned to a wireless telephone.

10 6. The telecommunications system as claimed in one of claims 1 to 4, characterized in that the transmission device (1) and/or the reception device (3) is assigned to a wired telephone.

7. The telecommunications system as claimed in claim 5 or 6, characterized in that the transmission device (1) and the reception device (3) are assigned to the telephones in such a way that a unidirectional image communication takes place.

15 8. The telecommunications system as claimed in one of claims 1 to 7, characterized in that the transmission device (1) and reception device (3) are designed in such a way that the image information contained in the image message is composed of 100 Pt 100 image pixels having 16 shades of gray which can be represented by 4 bits per image pixel.

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9. The telecommunications system as claimed in one of claim 1 to 8, characterized in that the transmission device (1) is designed in such a way that, of the data bits defining the image pixels of the image information, initially only the most-significant bit is transmitted and, in
5 the image build-up phases which follow, the respectively next-most-significant bit is transmitted.

10. The telecommunications system as claimed in one of claims 1 to 9, characterized in that the transmission device (1) is designed in such a way that, beginning from the center point of the transmission image motif, pixels of the transmission image motif arranged toward the outside are composed spirally to form image information of the image message.
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11. The telecommunications system as claimed in one of claims 1 to 10, characterized in that the transmission device (1) is designed in such a way that the image message is transmitted together with an error detection code.
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12. The telecommunications system as claimed in one of claims 1 to 11, characterized in that the transmission device (1) is designed in such a way that neighboring pixels or groups of pixels of the transmission image motif are composed in a time-shifted or interleaved mode to form image information of the image message.
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13. The telecommunications system as claimed in one of claims 1 to 12, characterized in that the transmission device (1) is designed in such a way that the speed at which the image messages are transmitted is adapted to the quality of the telecommunications channel (2).

5 14. The telecommunications system as claimed in one of claims 1 to 13, characterized in that the transmission device (1) is designed in such a way that actual brightness values of the transmitted image message are assigned desired brightness values stored in an assignment table.

10 15. The telecommunications system as claimed in claim 14, characterized in that the transmission device (1) is designed in such a way that the actual brightness values are adapted to the desired brightness values stored in the assignment table to utilize the brightness dynamic range before the assignment.

15 16. The telecommunications system as claimed in one of claims 1 to 15, characterized in that the transmission device (1) and reception device (3) in each case has an image message store (102, 320) for buffer-storing the image messages.

20 17. The telecommunications system as claimed in one of claims 1 to 16, characterized in that the transmission device (1) has seventh means (13) for controlling the first to third means (10, 11, 12).

18. The telecommunications system as claimed in claim 17, characterized in that the control means (13) are remote-controllable.

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19. The telecommunications system as claimed in claim 17, characterized in that the control means (13) are remote-controllable by dialing by means of a telephone.

5 20. The telecommunications system as claimed in one of claims 1 to 19, characterized in that the first means (10, 11, 12) of the transmission device (1) have optical searching means for the selection of an image motif area to be transmitted.

10 21. The telecommunications system as claimed in one of claims 1 to 20, characterized in that the first means (10, 11, 12) for capturing the transmission image motifs have focusing devices.

22. The telecommunications system as claimed in one of claims 1 to 21, characterized in that the first means (10, 11, 12) are remote-controllable.

15 23. The telecommunications system as claimed in one of claims 1 to 22, characterized in that the reception device (3) has eighth means (34) for signalling control signals to the transmission device (1).

20 24. The telecommunications system as claimed in one of claims 1 to 23, characterized in that the eighth means (34) for signalling the control signals to the transmission device are designed in such a way that the control signals are transferred directly to the telecommunications channel (2).

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5 25. The telecommunications system as claimed in one of claims 1 to 24, characterized in that the eighth means (34) for signalling the control signals to the transmission device are designed in such a way that the control signals are transferred via the acoustic coupling to the telecommunications channel (2).

26. The telecommunications system as claimed in one of claims 1 to 25, characterized in that the reception device (3) is designed as a portable personal computer (notebook).

10 27. The telecommunications system as claimed in one of claims 1 to 25, characterized in that the reception device (3) has a connection interface (324), to which a personal computer can be connected.

28. The telecommunications system as claimed in one of claims 1 to 27, characterized in that the reception device (3) has ninth means (33) for controlling the fourth to sixth and eighth means (30, 31, 32, 34).

15 29. The telecommunications system as claimed in claim 28, characterized in that the control means (33) are remote-controllable.

30. The telecommunications system as claimed in claim 28, characterized in that the control means (33) are remote-controllable by dialing by means of a telephone.

20 31. Use of the telecommunications system as claimed in one of claims 1 to 30 for black-and-white image transmission.

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32. Use of the telecommunications system as claimed in one of claims 1 to 30 as a monitoring device.
33. Use of the telecommunications system as claimed in one of claims 1 to 30 for the targeted transmission of visual information.
- 5 34. Use of the telecommunications system as claimed in one of claims 1 to 30 as a device based on the "movable eye" principle by direct coupling of the transmission device (1) to the reception device (3).